What is claimed is:

1.   A simulation process, comprising the following steps:

collecting data from a first system, wherein said first system has a plurality of failure modes and said data relates to said failure modes;

parameterizing said data for use with a computer program simulating a second system; and

executing said computer program simulating said second system, wherein said executing step comprises the steps of determining whether said second system will encounter a first false start event based upon said data collected from said first system.

2.   The process of claim 1, wherein said first system and said second system are the same.

3.   The process of claim 2, wherein said first and second systems are manufacturing systems.

4.   The process of claim 2, further comprising the step of analyzing said first system to determine said failure modes.

5.   The process of claim 4, wherein said executing step further comprises the step of calculating an uptime for each failure mode.

6.   The process of claim 5, wherein said executing step further comprises the step of determining which of said failure modes causes a first loss event for said second system.

7. The process of claim 6, wherein said executing step further comprises the step of calculating a downtime for said failure mode which causes said first loss event for said second system.

8. The process of claim 7, wherein said downtime is determined from one of a plurality of downtime distributions.

9. The process of claim 4, wherein said failure modes include a plurality of cumulative cause failure modes and a plurality of competing cause failure modes.

10. The process of claim 9, wherein said executing step further comprises the steps of:

calculating a first uptime for each cumulative cause failure mode;

calculating a first uptime for each competing cause failure mode;

determining which of said cumulative cause failure modes and competing cause failure modes causes said first loss event of said second system by selecting the smallest value of said first uptimes; and

calculating a downtime for said failure mode which causes said first loss event of said second system.

11. The process of claim 9, wherein said executing step further comprises the step of:

if said failure mode which causes said first loss event of said second system is a cumulative cause failure mode, then calculating a second uptime for only said cumulative cause failure mode which causes said first loss event for said second

system and calculating a second uptime for each of said competing cause failure modes.

12.   The process of claim 1, wherein said executing step further comprises the steps of:

if there is a first false start loss event, then calculating a downtime for said first false start loss event; and

determining whether said second system will encounter a second false start loss event following said downtime for said first false start loss event.

13.   The process of claim 1, wherein said executing step further comprises the step of outputting a reliability value for said second system.

14.   The process of claim 13, wherein said reliability value is an availability.

15.   The process of claim 13, wherein the error of said reliability value is less than about three percent.

16.   The process of claim 13, further comprising the step of modifying said first system.

17.   A computerized simulation process, comprising the following steps:

receiving values for a plurality of parameters calculated from data collected from a first system, wherein said first system has a plurality of failure modes and said data relates to said failure modes; and

determining whether a second system will encounter a first false start loss event based upon said data collected from said first system.

18.   A program product comprising a signal bearing medium embodying a program of machine-readable instructions executable by a digital processing apparatus to perform the steps of claim 17.

19.   The program product of claim 18, wherein said signal bearing medium is an optical disk or a magnetic disk.

20.   The program product of claim 18, wherein said signal bearing medium is at least a portion of a computer network.

21.   The program product of claim 18, wherein said signal bearing medium is a carrier wave.

22.   An article of manufacture, comprising:

at least one computer; and

a program product comprising a signal bearing medium embodying a program of machine-readable instructions executable by a digital processing apparatus to perform the steps of claim 17.